

Influence of Body Mass Index on developing ulceration in patients with venous disease – A case control study

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ABSTRACT

Background

To identify and address the factors which lead to ulceration in patients with chronic venous disease is essential to prevent progression of disease. Obesity is one such controversial factor. The aim of our study was to assess the influence of body mass index on the development of ulceration in patients with venous disease. We also analysed other risk factors that might lead to progression of disease to ulceration.

Methods

This was a prospective case control study conducted at the Vascular Surgery Outpatient department of Christian Medical College, Vellore. All patients enrolled in the study had a documented venous duplex showing venous insufficiency. One hundred and thirty cases with an active or healed venous ulcer were compared with

one hundred and thirty controls with no ulceration. A questionnaire was administered to look at the factors that influence the risk of developing ulceration. The patients underwent a clinical examination and the clinical class of venous disease was documented. The patient's height and weight was measured using standardized instruments and the body mass index was calculated.

Results

The mean body mass index of the study population was 29.04. 38.8% of the 260 patients recruited were obese and another 38.8 % were overweight. 45.5% of the obese patients had an active or healed ulcer. 77.8 % of the patients with recurrent ulcers were either overweight or obese. However, on comparing the body mass index between the cases and controls there was no statistically significant difference. On multivariate analysis we found - older age, male gender, deep vein thrombosis and prolonged periods of standing, to have a significant association with ulceration in venous disease.

Conclusion

Our study suggests that there is no association between body mass index and ulceration in patients with venous disease. Older age, male gender, deep vein thrombosis and periods of prolonged standing are associated with venous ulceration.

However, the investigators did consider the possibility of a different pathophysiology of venous disease in the obese and hence, venous duplex alone might not be an adequate diagnostic tool to select obese patients for future studies. We propose that further studies need to be done in this regard and follow up the obese patients in the control arm to see if they develop ulcers in the future in order to establish obesity as risk factor.